

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER No. 93-091

AMENDMENT TO SITE CLEANUP REQUIREMENTS ORDER NO. 89-137

**FORD AEROSPACE CORPORATION
SPACE SYSTEMS/LORAL
SUN MICROSYSTEMS
FAR WESTERN LAND & INVESTMENT, INC.**

for the property known as
FORMER FORD AEROSPACE CORPORATION
located at 3825, 3963, and 3977 FABIAN WAY
and 901 SAN ANTONIO ROAD
PALO ALTO
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds that:

1. **Site Location and Description.** Ford Aerospace Corporation, Space Systems/Loral, Sun Microsystems, and Far Western Land & Investment, Inc. (hereinafter referred to as the dischargers for purposes of this Order), are or have been involved with the facility known as the Former Ford Aerospace Corporation, located at 3825, 3963, and 3977 Fabian Way, and 901 San Antonio Road in Palo Alto, Santa Clara County. The site is bordered to the north and south by the Bayshore Freeway and Charleston Road and to the west and east by Fabian Way and San Antonio Road (Figure 1).
2. The site covers approximately 47 acres and consists of twelve buildings and a former carpool maintenance facility (Figure 2). Operations at the facility currently consist of fabrication of communications satellites and related communications equipment.
3. **History of Site Ownership.** Ford Aerospace Corporation, a wholly-owned subsidiary of Ford Motor Company, owned and occupied the large complex in Palo Alto from 1959 to 1990. Buildings 7 and 8 of the facility, at 3977 and 3963 Fabian Way, respectively, are owned by Far Western Land & Investment, Inc. Building 1 and an adjoining parking lot to the south-east, located at 901 San Antonio Road, was purchased by Sun Microsystems of Mountain View in 1988. In October 1990, Ford Motor Company sold Ford Aerospace to Loral Aerospace Holdings, Inc. which was renamed Space Systems/Loral. Space Systems/Loral currently occupies all of the buildings at the site, except for Building 1. Building 1 is still owned and occupied by Sun Microsystems.

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4. Ford Aerospace Corporation is named as discharger because it is the entity responsible for release of chemicals to the soil and groundwater at the site. Space Systems/Loral is named as discharger because it purchased Ford Aerospace and owns the main facilities at the site. Sun Microsystems and Far Western Land & Investment, Inc. are named as dischargers because they also own property at the site.
5. By private agreement, Ford Motor Company assumed responsibility from Loral Aerospace Holdings, Inc. for compliance with Order No. 89-137. This was described in a letter to the Board from Loral Aerospace dated April 22, 1991. Since April 1991, Ford Motor Company has been the sole entity communicating with Board staff on matters related to site investigation and cleanup.
6. If additional information is submitted indicating that any other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the State, the Board will consider adding that party's name to this Order.
7. **Board Orders and Permits.** The Board has adopted the following for the Former Ford Aerospace facility:
 - Site Cleanup Requirements Order 89-137, adopted August 16, 1989
 - Waste Discharge Requirements Order No. 90-109 (NPDES Permit No. CA0029742), adopted August 15, 1990
8. **Summary and Status of Site Investigations.**

Hydrogeology. The hydrogeology beneath the site consists of a series of overlapping alluvial fans deposited by east-flowing streams descending from the Santa Cruz Mountains. The regional groundwater gradient is northeast toward San Francisco Bay. The groundwater gradient beneath the site is influenced by a foundation dewatering system beneath Building 5, which also functions as a groundwater extraction system to control pollutant plumes.
9. **Soil and Groundwater.** A series of soil and groundwater investigations since 1987 revealed volatile organic compounds (VOCs) in soils and upper aquifer zones beneath the site, including trichloroethylene, perchloroethylene, cis-1,2-dichloroethylene, and Freon 113. It appears that all source areas in soil have

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been identified, however, no action has been taken to mitigate the soil contamination. The groundwater plume is currently influenced by an onsite groundwater extraction system, although Board staff anticipate that additional hydraulic control may be required. The extent of contamination in groundwater has not been adequately addressed.

10. Board staff did not recommend enforcement of original completion dates for tasks related to groundwater characterization and interim remedial measures due to a staff request for additional soil investigation and due to delays attributed to changes in ownership.
11. **Adjacent Investigations.** The Former Ford Aerospace site is bordered to the south by the former Advalloy, Inc. company located at 844 East Charleston Road. Advalloy owned and occupied the site from 1968 to late 1989, performing precision metal stamping for the semiconductor industry. Preliminary soil and groundwater investigations indicated that VOCs had been released to the subsurface from site activities. The Board adopted Site Cleanup Requirements for Advalloy on January 17, 1990.
12. After Advalloy's failure to comply with the Order, and notification that Advalloy had filed Chapter 11 Bankruptcy, in September 1990 the case was referred to the State Office of the Attorney General. To date, the case has not been resolved because there are limited assets from which to pay for cleanup. However, the Attorney General's Office and Board staff are pursuing discussions with a secured creditor of Advalloy to perform interim remedial actions at the Advalloy site.
13. The extent of the contaminant plume at Advalloy is not yet defined. Investigation work performed in 1989 indicated that the VOCs in groundwater have migrated beyond the Advalloy property boundary, commingling with the chemical plume beneath the Ford Aerospace site.
14. **Rationale for Amendment.**
 - a. **Change in Site Ownership.** Although the ownership of the company and property has changed since Order No. 89-137 was adopted, the Ford Motor Company, by private agreement with Loral Aerospace Holdings, Inc., retains responsibility for compliance with Order No. 89-137.

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- b. **Effects of Adjacent Uncontrolled Plume.** While the dischargers will be required to remediate onsite sources, the upgradient uncontrolled Advalloy plume is commingling with the Ford plume and may affect the remedial alternative selected.
 - c. **Plume Boundaries.** To date, the western boundary and a portion of the eastern boundary of the Ford Aerospace groundwater contaminant plume have not yet been defined. Previous groundwater investigation work has not satisfactorily characterized the extent of the plume. Secondly, recent groundwater monitoring data indicates that chemical concentrations have increased in the B aquifer. Further investigation of the A and B aquifers is required to determine the lateral and vertical extent of contamination.
 - d. **Source Areas.** Soil investigation work indicates that three onsite source areas of total VOC contamination, ranging from 1 to 390 ppm, have been identified; along the fence east of Buildings 7 and 8, the north end of the fence east of Building 3 - South Wing, and adjacent to MW FB-21. However, with the exception of removal of petroleum hydrocarbon contaminated soil in the area of the former carpool maintenance facility, VOC source areas at Ford Aerospace have not been remediated. Interim remedial actions are required to minimize any further impact to groundwater.
 - e. **Final Cleanup Objectives and Actions.** Due to a number of uncontrollable delays, including changes in ownership and difficulties with access agreements, the dischargers have not yet proposed final cleanup objectives and actions. It is appropriate to revise the date of submittal to allow for determination of the lateral and vertical extent of the plume.
15. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.
16. The Board has notified the dischargers and all interested agencies and persons of its intent under California Water Code Section 13304 to amend Site Cleanup Requirements for the dischargers and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

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17. The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that Order No. 89-137 (Site Cleanup Requirements) is amended as follows:

C.2.c.1. **COMPLETION DATE: October 29, 1993**

TASK 1: WORKPLAN FOR CHARACTERIZATION OF VERTICAL AND LATERAL EXTENT OF CONTAMINATION. The discharger(s) shall submit a technical report acceptable to the Executive Officer that proposes work to determine the vertical and lateral extent of groundwater contamination originating from the site.

The workplan shall also include a proposal for re-evaluation of the effectiveness of the existing hydraulic containment system. This evaluation shall include, but need not be limited to, an estimation of the flow capture zone of the existing extraction system, collection of updated field data, establishment of cone(s) of depression by field measurements, and presentation of chemical monitoring data for soil and groundwater. Previous hydraulic evaluations may be used in conjunction with new data collected.

The workplan shall include a time frame for implementation and completion of Task 1.

C.2.c.2. **COMPLETION DATE: 90 days after approval by the Executive Officer of Task 1**

TASK 2: FINAL REPORT ON VERTICAL AND LATERAL EXTENT OF CONTAMINATION. The discharger(s) shall submit a technical report acceptable to the Executive Officer which describes the vertical and lateral extent of groundwater contamination, as described in Task 1 above. This report shall propose, if appropriate, interim remedial actions for groundwater in addition to what currently is present at the site.

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- C.2.d.1. **COMPLETION DATE:** **October 29, 1993**
TASK 3: WORKPLAN FOR INTERIM REMEDIAL ACTIONS. The discharger(s) shall submit a technical report acceptable to the Executive Officer which contains an updated evaluation of interim remedial alternatives for cleanup of polluted soils, a recommended plan for interim remediation, and a time frame for implementation and completion.
- C.2.d.2. **COMPLETION DATE:** **120 days after approval by the Executive Officer of Task 3**
TASK 4: INITIATION OF INTERIM REMEDIAL ACTIONS. The discharger(s) shall submit a technical report acceptable to the Executive Officer documenting initiation of the interim remedies, the status of those activities identified and approved of in Task 3 above, and the projected completion date.
- C.2.e. **COMPLETION DATE:** **May 30, 1994**
TASK 5: PROPOSED FINAL CLEANUP OBJECTIVES AND ACTIONS. The discharger(s) shall submit a report acceptable to the Executive Officer evaluating: 1) final remedial alternatives, 2) the recommended alternative(s) necessary to achieve final cleanup objectives, including a public health exposure assessment, and 3) the specific tasks necessary to implement the recommended final remedial measures. Additionally, the discharger may include a preliminary proposal for demonstrating how final cleanup objectives will be met for chemicals originating from the site.

The submittal of technical reports evaluating immediate, interim, and final remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study shall consider the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300; Section 25356.1(c) of the California Health and Safety Code; CERCLA guidance documents with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to maintaining High Quality Waters in California."

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- C.4. The discharger(s) shall submit to the Board quarterly technical status reports on compliance with the Prohibitions, Specifications, and Provisions of Order 89-137 and its amendment. These reports shall be submitted by the 15th of the month following the previous quarter, beginning with October 15, 1993, summarizing the previous quarter's activities.

I, Stephen R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on August 18, 1993.



Stephen R. Ritchie
Executive Officer

Former Ford Aerospace Facility

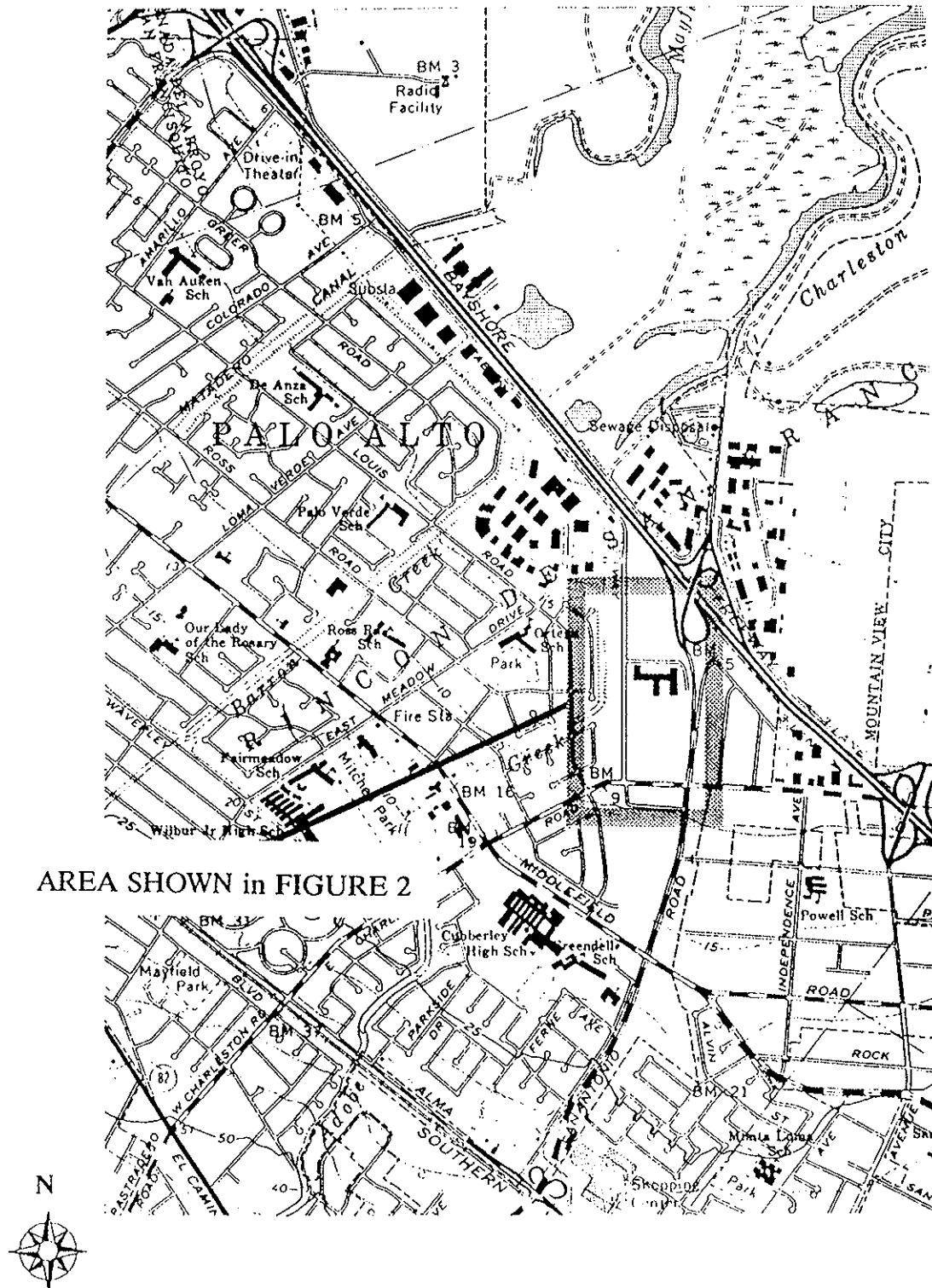


Figure 1. Site Location Map

Ford Aerospace, Palo Alto, CA

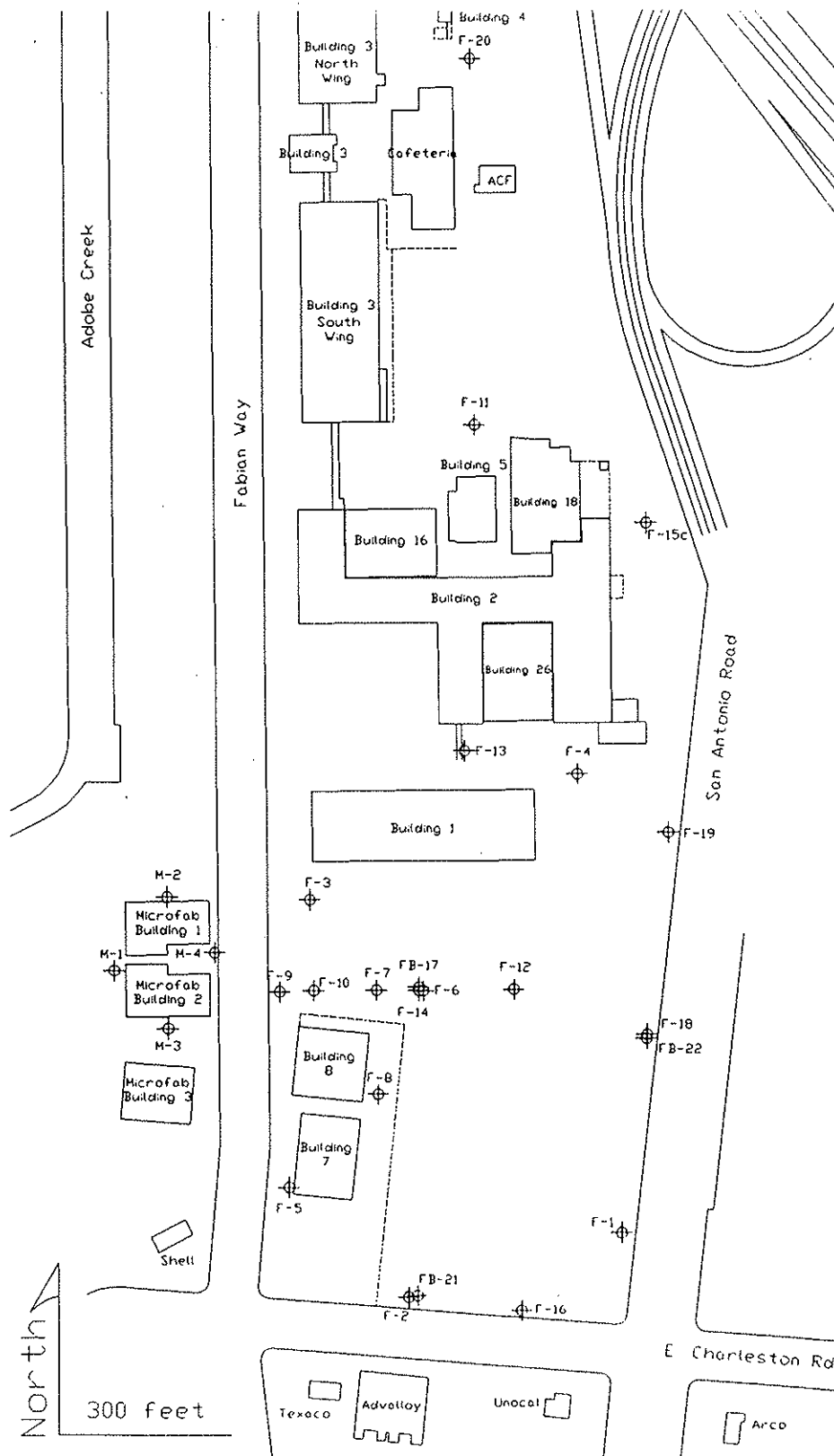


Figure 2.